



ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	Multiple-Input Multiple-Output Radio Transceiver
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Application Number: 10/707744



Confirmation Number: 1743

First Named Applicant: Gary Sugar

Attorney Docket Number: Cognio50US2

Art Unit: 2681

Search string: (5752169 or 6252548 or 6351502 or 5758265
 or 5966666 or 6125266 or 6477148 or 4580289
 or 5606736 or 5220688 or 5878332 or 5832375
 or 6282413 or 6259895 or 5974306 or 5715529
 or 6351502 or 20030035491 or
 20010015994).pn.

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
/QV	1	5752169	1998-05-12	Hareyama et al		455	76
	2	6252548	2001-06-26	Jeon	B1	342	383
	3	6351502	2002-02-26	Zargari			
	4	5758265	1998-05-26	Okanobu			
	5	5966666	1999-10-01	Yamaguchi et al		455	552.1
	6	6125266	2000-09-01	Matero et al		455	553.1
	7	6477148	2002-11-05	Gardenfors et al	B1	370	280
	8	4580289	1986-04-01	Enderby			
	9	5606736	1997-02-25	Hasler et al			
	10	5220688	1993-06-15	Tao			
	11	5878332	1999-03-02	Wang et al			
	12	5832375	1998-11-03	Leisten et al			
	13	6282413	2001-08-28	Baltus			
	14	6259895	2001-07-10	Yoshikawa et al			
/QV	15	5974306	1999-10-26	Hornak et al			

/QV/	16	5715529	1998-02-03	Kianush et al
/QV/	17	6351502	2002-02-26	Zargari

US Published Applications

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init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
/QV/	1	20030035491	2003-02-20	Walton et al	A1	375	267
/QV/	2	20010015994	2001-08-23	Nam			

Signature

Examiner Name	Date
/Quochien Vuong/	06/23/2007



COGNIO, INC.
101 ORCHARD RIDGE DRIVE, SUITE 350
GAIITHERSBURG, MARYLAND 20878

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.: Cognio50US2
SERIAL NO.: 10/707,744
APPLICANT(S): Sugar et al.

GROUP ART UNIT: 2681
FILING DATE: January 8, 2004
TODAY'S DATE: March 25, 2004

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

*Examiner Initial	Author, Title, Date, Pertinent Pages, Etc
/QV/ BA	International Search Report in International Application No. PCT/US03/12183
BB	LANTZ, "A 5GHz, SiGe, Monolithic WLAN Transceiver", PCC Workshop, 1999
BC	COPELAND ET AL., "5GHz SiGe HBT Monolithic Radio Transceiver with tunable filtering", IEEE Trans on Microwave Theory and Techniques, February 2000, Vol. 48, No. 2
BD	Single Chip Bluetooth Radio Transceiver, STMicroelectronics, 2001, (2 pages)
BE	Rudell et al., "Highly Integrated Transceiver Architectures for Adaptive RF Communications," University of California, Berkeley, date unknown.
BF	Behbahani et al., "An All CMOS, 2.4 GHz, Full Adaptive, Scalable, Frequency Hopped Transceiver" University of California, Los Angeles, Integrated Circuits & Systems Laboratory, date unknown.
BG	Ellingson et al., "An 8-Element Dual-Frequency Array Receiver for Propagation Measurements near 2.4 GHz," The Ohio State University ElectroScience Laboratory, July, 2001
BH	Gozali et al., "Virginia Tech Space-Time Advanced Radio (VT-STAR), Proceedings, Radio and Wireless Conference (RAWCON) 2001.
/QV/ BI	"Parkervision Announces Successful Development of Most Integrated High Performance Wireless LAN Transceiver Chips Current Available," July 30, 2002.

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/QV/ BJ ✓	PV-1000Hb 802.11b RF Transceiver Product Specification, 2002, pages 1-11.
/QV/ BK ✓	Madihian, et al., "A 5 GHz-Band Multifunctional BiCMOS Transceiver Chip for GMSK Modulation Wireless Systems," IEEE Journal of Solid-State Circuits, Vol 34, No. 1, January, 1999.
/QV/ BL ✓	Rudell et al., "Recent Developments in High Integration Multi-Standard CMOS Transceivers for Personal Communication Systems," 1998 International Symposium on Lower Power Electronics, Monterey, California.
/QV/ BM ✓	Cho et al., "Multi-Standard Monolithic CMOS RF Transceiver," University of California, Berkeley, January 8, 1996, (pp. 1-26).
/QV/ BN ✓	Rudell et al., "Second Generation Multi-Standard Monolithic CMOS RF Transceiver," University of California, Berkeley, June 16, 1996.

EXAMINER

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FORM PTO-1449		ATTY. DOCKET NO. COG-2-0977.02.US	SERIAL NO. 10/707,744
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		APPLICANT Sugar et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use several sheets if necessary)</i>		FILING DATE January 8, 2004	GROUP 2685

O I P E S C
PATENT & TRADEMARK OFFICE
AUG 05 2005

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/QV/	*	4,150,344	04/1979	Fenk			
/QV/	*	4,263,676	04/1981	Liebel			
/QV/	*	4,310,809	01/1982	Buck et al.			
		4,580,289	04/1986	Enderby			
/QV/	*	4,696,055	09/1987	Marshall			
/QV/	*	4,905,306	02/1990	Anderson			
/QV/	*	5,150,085	09/1992	Hales			
		5,220,688	06/1993	Tao			
/QV/	*	5,548,825	08/1996	Maemura et al.			
/QV/	*	5,579,341	11/1996	Smith et al.			
		5,600,730	02/1997	Hastier et al.			
		5,715,529	02/1998	Kianush et al.			
		5,752,160	05/1998	Harayama et al.			
		5,758,265	05/1998	Okanebu			
		5,832,375	11/1998	Leisten et al.			
/QV/	*	5,859,854	01/1999	Reudink			
		5,870,932	03/1999	Wang et al.			
		5,966,666	10/1999	Yamaguchi et al.			
		5,974,306	10/1999	Homak et al.			
/QV/	*	6,094,084	07/2000	Abou-Allam et al.			
/QV/	*	6,097,269	08/2000	Hernandez			
		6,125,266	09/2000	Matero et al.			
/QV/	*	6,151,354	11/2000	Abbey			
/QV/	*	6,157,822	12/2000	Bastini et al.			
/QV/	*	6,215,988	04/2001	Matero			
/QV/	*	6,239,645	05/2001	Tsukahara et al.			

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	6,252,549	06/2001	Jeon			
	6,250,805	07/2001	Yoshikawa et al.			
	6,282,413	08/2001	Baltus			
/QV/	6,285,720	09/2001	Martone			
	6,351,502	02/2002	Zargari			
/QV/	6,359,923	03/2002	Agee et al.			
/QV/	6,377,631	04/2002	Raleigh			
/QV/	6,381,471	06/1999	Dvorkin			
/QV/	6,456,833	11/1999	Sessink			
/QV/	6,473,467	10/2002	Wallace et al.			
	6,477,149	11/2002	Gardenfors et al.			
/QV/	6,529,719	03/2003	Imbormone et al.			
/QV/	6,542,724	04/2003	Copeland et al.			
/QV/	6,549,096	04/2003	Groves et al.			
/QV/	6,553,216	04/2003	Pugel et al.			
/QV/	6,766,149	07/2004	Hikita et al.			
/QV/	6,771,706	08/2004	Ling et al.			
/QV/	2001/0011013	08/2001	Vorenkamp et al.			
	2001/0015004	08/2001	Nam			
/QV/	2001/0036818	11/2001	Dobrovolny			
/QV/	2002/0077070	06/2002	McNamara et al.			
/QV/	2002/0150173	10/2002	Buda			
/QV/	2002/0164963	11/2002	Tehrani et al.			
/QV/	2002/0165626	11/2002	Hammons, Jr. et al.			
/QV/	2002/0173337	12/2002	Hajimiri et al.			

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/QVI/	*	2002/0177447	11/2002	Walton et al.			
/QVI/	*	2003/0002604	01/2003	Fifield et al.			
		2003/0035401	02/2003	Walton et al.			
/QVI/	*	2003/0076797	04/2003	Lozano			
	*	2003/0076908	04/2003	Huang et al.			
	*	2003/0207668	11/2003	McFarland et al.			
	*	2003/0223391	12/2003	Malaender et al.			
	*	2004/0017847	01/2004	Alberth, Jr. et al.			
	*	2004/0204036	10/2004	Yang			
	*	2004/0234012	11/2004	Rooyen			
	*	2004/0252632	12/2004	Bourdoux et al.			
	*	2005/0009476	01/2005	Wu et al.			
	*	2005/0020298	01/2005	Masumoto et al.			
	*	2005/0042997	02/2005	Steele et al.			
V	*	2005/0047384	03/2005	Wax et al.			
/QVI/	*	2005/0123025	06/2005	Sorrells et al.			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
/QVI/	*	03/092997	11/2003	WO			
/QVI/	*	0 823 790	02/1998	EP			
/QVI/	*	H11-46113	02/1999	JP			X**
/QVI/	*	2000-188522	07/2000	JP			X**
/QVI/	*	2001-024569	01/2001	JP			X**
/QVI/	*	2001-285114	10/2001	JP			X**

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PATENT & TRADEMARK OFFICE O P E JC151 AUG 05 2005	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION						
						YES	NO					
						/QV/ *	2002-26462	01/2002	JP			X**
						/QV/ *	2003-244045	08/2003	JP			X**
/QV/ *	2003-283359	10/2003	JP			X**						
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)												
/QV/ *	'Fodus Delivers 802.11B/G and 802.11B/A/G WLAN Total Solutions', http://www.fodus.com/DOCS/2003-09-15%20Fodus%20Press%20Release.htm , September 15, 2003.											
	'Parkervision Announces Successful Development of Most Integrated High Performance Wireless LAN Transceiver Chips Current Available', July 30, 2002.											
	'Single Chip Bluetooth Radio Transceiver', STMicroelectronics, 2001, (2 pages)											
	Babbhani et al., "An All CMOS, 2.4 GHz, Full Adaptive, Scalable, Frequency Hopped Transceiver", University of California, Los Angeles, Integrated Circuits & Systems Laboratory, date unknown.											
/QV/ *	Brodersen, "BWRC Status", Summer 2002 Retreat Presentations, Berkeley Wireless Research Center, June 3, 2002.											
/QV/ *	Cabric et al., "RF Front-End for MCMA Systems", Summer 2002 Retreat Presentations, Berkeley Wireless Research Center, June 3, 2002.											
	Cho et al., "Multi-Standard Monolithic CMOS RF Transceiver", University of California, Berkeley, January 8, 1996, (1-26).											
/QV/ *	Clarke, "Chip Set Bridges 802.11a and .11b Wireless LANs", EETimes.com, http://www.eetimes.com/showArticle.jhtml?articleID=10809297 , September 24, 2001.											
	Copeland et al., "5GHz SiGe HBT Monolithic Radio Transceiver with Tunable Filtering", IEEE Trans. On Microwave Theory and Techniques, February 2000, Vol. 48, No. 2.											

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/QV/	*	Ellingson et al., "An 8-Element Dual-Frequency Array Receiver for Propagation Measurements Near 2.4 GHz". The Ohio State University ElectroScience Laboratory, July 2001.	
		Gozali et al., "Virginia Tech Space-Time Advanced Radio (VT STAR)", Proceedings, Radio and Wireless Conference (RAWCON), 2001.	
		Lantz, "A 5GHz, SiGe, Monolithic WLAN Transceiver", PCC Workshop, 1000.	
/QV/	*	Long, "A Low Voltage 5.1-5.8 GHz Image-Reject Downconverter RF IC", IEEE Journal of Solid State Circuits, Vol. 35, No. 9, September 2000, pp. 1320-1328.	
/QV/	*	Macedo et al., "A 1.9-GHz Silicon Receiver with Monolithic Image Filtering", IEEE Journal of Solid-State Circuits, Vol. 33, No. 3, March 1998, pp., 378-386.	
		Madhian et al., "A 5 GHz Band Multifunctional BiCMOS Transceiver Chip for GMSK Modulation Wireless Systems," IEEE Journal of Solid-State Circuits, Vol. 34, No. 1, January 1999.	
/QV/	*	Nikolic, "From Algorithms to Systems-on-a-Chip in a Semester", BWRC Winter 2001 Retreat, Berkeley Wireless Research Center, January 8, 2001.	
		PV-1000Hb 802.11b RF Transceiver Product Specification, 2002, pp. 1-11.	
		Rudell et al., "Highly Integrated Transceiver Architectures for Adaptive RF Communications", University of California, Berkeley, date unknown.	
		Rudell et al. "Recent Developments in High Integration Multi-Standard CMOS Transceivers for Personal Communication Systems", 1998 International Symposium on Lower Power Electronics, Monterey, California.	
		Rudell et al. "Second Generation Multi-Standard Monolithic CMOS RF Transceiver", University of California, Berkeley, June 16, 1996.	

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	4,310,000	01/1982	Buck et al.			
	4,580,280	04/1986	Endorby			
	4,606,055	09/1987	Marshall			
	4,905,306	02/1990	Andereen			
	5,150,085	06/1992	Haleo			
	5,220,688	06/1993	Tee			
	5,548,825	08/1996	Maemura et al.			
	5,579,341	11/1996	Smith et al.			
	5,606,736	02/1997	Haesler et al.			
	5,715,529	02/1998	Kianush et al.			
	5,752,160	05/1998	Horigome et al.			
	5,758,265	05/1998	Okanobu			
	5,832,375	11/1998	Leisten et al.			
	5,850,854	01/1999	Roudink			
	5,878,332	03/1999	Wang et al.			
	5,966,666	10/1999	Yamaguchi et al.			
	5,974,306	10/1999	Hornak et al.			
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	6,007,260	08/2000	Hernandez			
	6,125,266	09/2000	Matero et al.			
	6,151,354	11/2000	Abbey			
	6,157,022	12/2000	Bastini et al.			
	6,215,088	04/2001	Matero			
	6,239,645	05/2001	Teukahara et al.			

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		6,351,502	02/2002	Zargari			
		6,359,023	03/2002	Agee et al.			
		6,377,631	04/2002	Raleigh			
		6,381,471	06/1999	Dvorkin			
		6,456,833	11/1999	Soscink			
		6,473,467	10/2002	Wallace et al.			
		6,477,148	11/2002	Gardeniere et al.			
		6,529,719	03/2003	Imbomono et al.			
		6,542,724	04/2003	Copeland et al.			
		6,549,096	04/2003	Grove et al.			
		6,553,216	04/2003	Pugel et al.			
		6,766,148	07/2004	Hikita et al.			
		6,771,706	08/2004	Ling et al.			
/QV/	*	6,778,612	08/2004	Lozano et al.			
/QV/	*	6,888,809	05/2005	Foschini et al.			
		2001/0011013	08/2001	Verenkamp et al.			
		2001/0015904	08/2001	Nam			
		2001/0036818	11/2001	Debrovolev			
		2002/0077070	06/2002	McNamara et al.			
/QV/	*	2002/0111142	08/2002	Klimovitch			
		2002/0150173	10/2002	Buda			
		2002/0164063	11/2002	Tehrani et al.			

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<u>"Single Chip Bluetooth Radio Transceiver"</u> , STMicroelectronics, 2001, (2 pages).			
<u>Rebbahani et al., "An All CMOS, 2.4 GHz, Full Adaptive, Scalable, Frequency Hopped Transceiver"</u> , University of California, Los Angeles, Integrated Circuits & Systems Laboratory, date unknown.			
<u>Brodersen, "RWRC Status"</u> , Summer 2002 Retreat Presentations, Berkeley Wireless Research Center, June 3, 2002.			
<u>Cabric et al., "RF Front End for MCMA Systems"</u> , Summer 2002 Retreat Presentations, Berkeley Wireless Research Center, June 3, 2002.			
<u>Cho et al., "Multi-Standard Monolithic CMOS RF Transceiver"</u> , University of California, Berkeley, January 8, 1996, (1-26).			
<u>Clarke, "Chip Set Bridges 802.11a and 11b Wireless LANs"</u> , EETimes.com , http://www.eetimes.com/showArticle.jhtml?articleID=10809297 , September 24, 2001.			
<u>Copeland et al., "5GHz SiGe HBT Monolithic Radio Transceiver with Tunable Filtering"</u> , IEEE Trans. On Microwave Theory and Techniques, February 2000, Vol. 48, No. 2.			
<u>Ellingson et al., "An 8-Element Dual-Frequency Array Receiver for Propagation Measurements Near 2.4 GHz"</u> , The Ohio State University ElectroScience Laboratory, July 2001.			
<u>Gezali et al., "Virginia Tech Space-Time Advanced Radio (VT STAR)"</u> , Proceedings, Radio and Wireless Conference (RAWCON), 2001.			
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
Long, "A Low Voltage 5.1-5.8 GHz Image Reject Downconverter RFIC", IEEE Journal of Solid State Circuits, Vol. 35, No. 9, September 2000, pp. 1320-1328.			
Maeeda et al., "A 1.9 GHz Silicon Receiver with Monolithic Image Filtering", IEEE Journal of Solid State Circuits, Vol. 33, No. 3, March 1998, pp., 378-386.			
Modibian et al., "A 5 GHz Band Multifunctional BiCMOS Transceiver Chip for GMSK Modulation Wireless Systems," IEEE Journal of Solid-State Circuits, Vol. 34, No. 1, January 1999.			
Nikolic, "From Algorithms to Systems on a Chip in a Semester", BWRC Winter 2001 Retreat, Berkeley Wireless Research Center, January 8, 2001.			
PV-1000HD 802.11b RF Transceiver Product Specification, 2002, pp. 1-11.			
Rudell et al., "Highly Integrated Transceiver Architectures for Adaptive RF Communications", University of California, Berkeley, date unknown.			
Rudell et al., "Recent Developments in High Integration Multi-Standard CMOS Transceivers for Personal-Communication Systems", 1998 International Symposium on Lower Power Electronics, Monterey, California.			
Rudell et al., "Second Generation Multi-Standard Monolithic CMOS RF Transceiver", University of California, Berkeley, June 16, 1996.			

EXAMINER /Quochien Vuong	DATE CONSIDERED 06/23/2007
-----------------------------	-------------------------------

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FORM PTO-1449		ATTY. DOCKET NO. COG-2-0977.02.US	SERIAL NO. 10/707,744
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		APPLICANT Sugar et al.	
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(Use several sheets if necessary)			

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		4,150,344	04/1970	Fenck			
		4,263,676	04/1981	Liebel			
		4,310,800	01/1982	Buck et al.			
		4,580,209	04/1986	Enderby			
		4,696,055	09/1987	Marshall			
		4,905,306	02/1990	Anderson			
		5,150,085	09/1992	Hales			
		5,220,688	06/1993	Tae			
		5,548,825	08/1996	Maeamura et al.			
		5,570,341	11/1996	Smith et al.			
		5,606,736	02/1997	Hasler et al.			
		5,715,520	02/1998	Kianush et al.			
		5,752,169	05/1998	Hareyama et al.			
		5,753,265	05/1998	Okanobu			
		5,832,375	11/1998	Iaisten et al.			
		5,859,854	01/1999	Roudink			
		5,878,332	03/1999	Wang et al.			
		5,966,666	10/1999	Yamaguchi et al.			
		5,974,306	10/1999	Hornak et al.			
		6,004,084	07/2000	Abou Allam et al.			
		6,097,269	08/2000	Hernandez			
		6,125,266	08/2000	Matero et al.			
		6,151,354	11/2000	Abbey			
		6,157,822	12/2000	Bastini et al.			
		6,215,988	04/2001	Matero			
		6,239,645	05/2001	Toukahara et al.			

EXAMINER /Quochien Vuong/	DATE CONSIDERED 06/23/2007
------------------------------	-------------------------------

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(Use several sheets if necessary)			

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,252,549	06/2001	Jeon			
		6,250,805	07/2001	Yoshikawa et al.			
		6,282,413	08/2001	Baltus			
		6,285,720	09/2001	Martone			
		6,351,502	02/2002	Zargari			
		6,339,923	03/2002	Agee et al.			
		6,377,631	04/2002	Raleigh			
		6,381,471	06/2002	Dverkin			
		6,450,800	11/1999	Cessink			
		6,473,467	10/2002	Wallace et al.			
		6,477,148	11/2002	Gardenfors et al.			
		6,520,719	03/2000	Imbernone et al.			
		6,542,724	04/2003	Copeland et al.			
		6,549,090	04/2003	Groves et al.			
		6,553,216	04/2003	Pugel et al.			
		6,766,140	07/2004	Hikita et al.			
		6,771,706	08/2004	Ling et al.			
		6,770,612	08/2004	Lozano et al.			
		6,888,800	05/2005	Fochini et al.			
		2001/0011013	08/2001	Vorenkamp et al.			
		2001/0015994	08/2001	Nam			
		2004/0036818	11/2001	Debrovsky			
		2002/0077070	08/2002	McNamara et al.			
		2002/0111142	08/2002	Klimovitch			
		2002/0150173	10/2002	Buda			
		2002/0164963	11/2002	Tehrani et al.			

EXAMINER /Quochien Vuong/	DATE CONSIDERED 06/23/2007
------------------------------	-------------------------------

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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	03/093007	11/2003	WO				
	0 823 790	02/1998	EP				
	1 207 645	05/2002	EP				
	1 387 501	02/2004	EP				
	1 569 362	08/2005	EP				
	H11 46113	02/1999	JP			X**	
	2000-188522	07/2000	JP			X**	
	2001-024569	01/2001	JP			X**	
	2001-285114	10/2001	JP			X**	
	2002-26462	01/2002	JP			X**	
	2003-244045	08/2003	JP			X**	
	2003-282350	10/2003	JP			X**	
	2003-060604	02/2000	JP			X**	
	2004-179822	06/2004	JP			X**	
	2004-336561	11/2004	JP				
	2003-0058265	07/2003	KR			*	
	2005-0013011	02/2005	KR			X	

**** Abstract Only**

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		APPLICANT Sugar et al.	
		FILING DATE January 8, 2004	GROUP 2685
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
/QV/		"Fodus Delivers 802.11B/G and 802.11B/A/G WLAN Total Solutions" , http://www.fodus.com/DOCS/2003-09-15%20Fodus%20Press%20Release.htm , September 15, 2003.	
		"Parkervision Announces Successful Development of Most Integrated High Performance Wireless LAN Transceiver Chips Current Available" , July 30, 2002.	
		"Single Chip Bluetooth Radio Transceiver" , STMicroelectronics, 2001, (2 pages).	
		Babahani et al., "An All CMOS, 2.4 GHz, Full Adaptive, Scalable, Frequency Hopped Transceiver" , University of California, Los Angeles, Integrated Circuits & Systems Laboratory, date unknown.	
/QV/	*	Bouras et al. "A Digitally Calibrated 5.15-5.825GHz Transceiver for 802.11a Wireless LANs in 0.18 μ m CMOS." 2003 IEEE International Solid-State Circuits Conference.	
		Brodersen, "BWRC Status", Summer 2002 Retreat Presentations, Berkeley Wireless Research Center, June 3, 2002.	
/QV/	*	Brodersen et al. "Wireless Systems-On-a-Chip Design." IEEE, 2001, pp. 45-48.	
/QV/	*	Cabric et al. "On MIMO Signal Processing for Adaptive W-CDMA and OFDM Wireless Transceivers." IEEE 2005.	
		Cabric et al., "RF Front End for MCMA Systems", Summer 2002 Retreat Presentations, Berkeley Wireless Research Center, June 3, 2002.	
		Cho et al., "Multi-Standard Monolithic CMOS RF Transceiver" , University of California, Berkeley, January 8, 1996, (1-26).	
		Clarke, "Chip Set Bridges 802.11a and 11b Wireless LANs" , EE Times.com, http://www.eetimes.com/showArticle.jhtml?articleID=10809297 , September 24, 2001.	
		Copeland et al., "5GHz SiGe HBT Monolithic Radio Transceiver with Tunable Filtering" , IEEE Trans. On Microwave Theory and Techniques, February 2000, Vol. 48, No. 2.	
EXAMINER /Quochien Vuong/		DATE CONSIDERED 06/23/2007	

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		APPLICANT Sugar et al.	
		FILING DATE January 8, 2004	GROUP 2685

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		Ellingson et al., "An 8-Element Dual Frequency Array Receiver for Propagation Measurements Near 2.4 GHz", The Ohio State University ElectroScience Laboratory, July 2001.
		Cozali et al., "Virginia Tech Space-Time Advanced Radio (VT STAR)", Proceedings, Radio and Wireless Conference (RAWCON), 2001.
		Lantz, "A 5GHz, SiGe, Monolithic WLAN Transceiver", PCC Workshop, 1999.
		Long, "A Low Voltage 5.1-5.8 GHz Image Reject Downconverter RF IC", IEEE Journal of Solid-State Circuits, Vol. 35, No. 9, September 2000, pp. 1320-1328.
		Macedo et al., "A 1.9-GHz Silicon Receiver with Monolithic Image Filtering", IEEE Journal of Solid-State Circuits, Vol. 33, No. 3, March 1998, pp., 378-386.
		Madibian et al., "A 5-GHz-Band Multifunctional BiCMOS Transceiver Chip for GMSK Modulation Wireless Systems," IEEE Journal of Solid-State Circuits, Vol. 34, No. 1, January 1999.
		Nikolic, "From Algorithms to Systems on a Chip in a Semiconductor", BWRC Winter 2001 Retreat, Berkeley Wireless Research Center, January 8, 2001.
/QV/	•	Poon et al. "Degrees of Freedom in Multiple-Antenna Channels: A Signal Space Approach." IEEE Transactions on Information Theory, Vol. 51, No. 2, February 2005, pp. 523-536.
/QV/	•	Poon et al. "An Adaptive Multiantenna Transceiver for Slowly Flat Fading Channels." IEEE Transactions on Communications, Vol. 51, No. 11, November 2003, pp. 1820-1827.
/QV/	•	Poon et al. "Indoor Multiple-Antenna Channel Characterization From 2 to 8 GHz." IEEE 2003, pp. 3519-3523.
/QV/	•	Poon et al. "The Signal Dimensions in Multiple-Antenna Channels." IEEE 2003, pp. 1247-1251.
/QV/	•	Poon et al. "Multiple-Antenna Channels From a Combined Physical and Networking Perspective." IEEE 2002, pp. 1528-1532.

EXAMINER /Quochien Vuong/	DATE CONSIDERED 06/23/2007
------------------------------	-------------------------------

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		APPLICANT Sugar et al.	
		FILING DATE January 8, 2004	GROUP 2685
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
/QV/	*	Poon et al. "A Spatial Channel Model for Multiple-Antenna Systems." IEEE 2004, pp. 3665-3668.	
		PV-1000HD 802.11b RF Transceiver Product Specification, 2002, pp. 1-11.	
		Rudell et al., "Highly Integrated Transceiver Architectures for Adaptive RF Communications", University of California, Berkeley, date unknown.	
		Rudell et al., "Recent Developments in High Integration Multi-Standard CMOS Transceivers for Personal Communication Systems", 1998 International Symposium on Lower Power Electronics, Monterey, California.	
		Rudell et al., "Second Generation Multi-Standard Monolithic CMOS RF Transceiver", University of California, Berkeley, June 16, 1996.	
/QV/	*	Vassiliou et al. "A Single-Chip Digitally Calibrated 5.15-5.825-GHz 0.18 μ m CMOS Transceiver for 802.11a Wireless LAN." IEEE Journal of Solid-State Circuits, Vol. 38, No. 12, December 2003, pp. 2221-2231.	
/QV/	*	Zhang et al. "A Low-Complexity Antenna Diversity Receiver Suitable for TDMA Handset Implementation." IEEE 1997, pp. 1753-1757.	

EXAMINER /Quochien Vuong/	DATE CONSIDERED 06/23/2007
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